AMENDMENTS TO THE CLAIMS

1. **(Currently amended)** A method of obtaining a Nucleic acid composite material sensor ~~obtainable by~~ comprising the steps of

(i) providing conductive particles;

(ii) ~~optionally pre-treating the particles by physical or chemical means;~~

~~(iii)~~ mixing dry or wet nucleic acid material with the conductive particles thereby obtaining the nucleic acid composite material;

~~(iv)~~ (iii) depositing the nucleic acid composite material onto a substrate or molding the nucleic acid composite material to be used as a working electrode; and

~~(v)~~ (iv) drying the nucleic acid composite material ~~formulation~~ on the substrate[[;]]thereby obtaining the nucleic acid material sensor

2. **(Currently amended)** The method ~~nucleic acid composite material sensor~~ according to Claim 1, wherein the conductive particles are made of carbon, gold, ~~or~~ platinum, silver and/or colloids of the same materials.

3. **(Currently amended)** The method ~~nucleic acid composite material sensor~~ according to Claim 1, wherein the nucleic acid material is selected from the group consisting ~~consist~~ of double strand or single strand DNA or RNA of any lengths, ranging from a few nucleotides (oligomers) to several thousands of bases~~, including bulk DNA such as salmon testes DNA or calf Thymus DNA, or any DNA~~ and ~~specific nucleic acids, such as~~ synthetic nucleic acid of specific sequences~~, including poly (G), poly (A), poly (T), poly (U) and poly (C) and/or the mixture of the above~~.

4. **(Currently amended)** The method ~~nucleic acid composite material sensor~~ according to Claim 1, wherein the pre-treatment step (ii) comprises physical or chemical pretreatment of the particles with laser or plasma irradiation, mechanical grinding, laminating, heat, ~~or~~ oxidizing, acidifying and bonding agents ~~such as ferrocene carboxylic acid~~.

5. **(Currently amended)** The method ~~nucleic acid composite material sensor~~ according to Claim 1, further comprising pretreating ~~wherein the pre- treatment step (ii) comprises of~~ the nucleic acids with DNA dyes, ~~and~~ or intercalants~~, such as metal complexes including Ruthenium, ferro and cobalt ions~~.

6. **(Cancelled)**

7. **(Currently amended)** The method ~~nucleic acid composite material sensor~~ according to Claim 1 ~~any of the preceding claims~~, wherein the substrate consists of isolating material selected from the group consisting of ~~, such as~~ paper, and polymers.

8. **(Currently amended)** The method ~~nucleic acid composite material sensor~~ according to Claim 1 ~~any of the preceding claims~~, wherein the substrate consists of conductive material selected from the group consisting of~~, such as~~ carbon ink, and metallic base.

9. **(Currently amended)** The method ~~nucleic acid composite material sensor~~ nucleic acid composite material sensor according to Claim 1 ~~any of the preceding claims~~, further comprising printing, layering, embedding or engraving said nucleic acid ~~wherein the~~ composite material ~~is printed, layered, embedded, engraved~~ onto said substrate ~~the above substrates~~.

10. **(Currently amended)** The method ~~nucleic acid composite material sensor~~ according to Claim 1 ~~any of the preceding claims~~, wherein the composite material is molded or injected with or without substrate onto a specific shape.

11. **(Currently amended)** The method ~~nucleic acid composite material sensor~~ according to Claim 1 ~~any of the preceding claims~~, wherein the nucleic acid composite material is deposited onto ~~the~~ a carrier or molded or injected at a temperature ranging from -230°C to 400°C.

12. **(Currently amended)** The method ~~nucleic acid composite material sensor~~ according to Claim 11 ~~any of the preceding claims~~, wherein the printed or molded or injected nucleic acid composite material is heat-treated at a temperature ranging from -230°C to 400°C

13. **(Cancelled)**

14. **(Cancelled)**

15. **(Cancelled)**

16. **(Currently amended)** A method for detecting compounds or compositions having an oxidative or anti-oxidative activity, said method comprising:

providing a fluid comprising at least one compound or composition to be tested;

contacting said fluid with a nucleic acid composite material sensor according to Claim 17 ~~any of the claims 1 to 12~~;

subjecting the nucleic acid composite material sensor to conditions oxidative for nucleic acid molecules; and

determining ~~the~~ an effect of the compound on the nucleic acid composite material sensor by measuring an electrochemical signal as compared to a reference, that had been subjected to the same conditions but had not been contacted with the compound ~~substance~~.

17. **(New)** A nucleic acid composite material sensor comprising

a nucleic acid composite material comprising

conductive particles; and

dry or wet nucleic acid material, and

a substrate.

18. **(New)** The nucleic acid composite material sensor according to Claim 17, wherein the conductive particles are made of carbon, gold, platinum, silver and/or colloids of the same materials.

19. **(New)** The nucleic acid composite material sensor according to Claim 17, wherein the nucleic acid consists of double strand or single strand DNA or RNA of any lengths, ranging from a few nucleotides (oligomers) to several thousands of bases.

20. **(New)** The nucleic acid composite material sensor according to Claim 19, wherein said DNA is bulk DNA, a synthetic nucleic acid and/or the mixture of the above.

21. **(New)** The nucleic acid composite material sensor according to Claim 20, wherein said bulk DNA is salmon sperm DNA or calf Thymus DNA, and said synthetic nucleic acid comprises poly (G), poly (A), poly (T), poly (U) or poly (C) sequences.

22. **(New)** The nucleic acid composite material sensor according to Claim 17, wherein the particles are pretreated with laser or plasma irradiation, mechanical grinding, laminating, heat, oxidizing, acidifying or with bonding agents.

23. **(New)** The nucleic acid composite material sensor according to Claim 22, wherein said bonding agent is ferrocene carboxylic acid.

24. **(New)** The nucleic acid composite material sensor according to Claim 17, wherein the nucleic acids are pretreated with DNA dyes, and/or intercalants.

25. **(New)** The nucleic acid composite material sensor according to Claim 24, wherein said intercalants are metal complexes comprising Ruthenium, ferro-and cobalt ions.

26. **(New)** The nucleic acid composite material sensor according to Claim 17, wherein the substrate consists of an isolating material selected from paper and polymers.

27. **(New)** The nucleic acid composite material sensor according to Claim 17, wherein the substrate consists of a conductive material selected from carbon ink, and metallic base.

28. **(New)** The nucleic acid composite material sensor according to Claim 17, wherein the nucleic acid composite material is printed, layered, embedded, or engraved onto said substrate.

29. **(New)** The nucleic acid composite material sensor according to Claim 17, wherein the nucleic acid composite material is molded or injected with or without substrate into a specific shape.

30. **(New)** The nucleic acid composite material sensor according to Claim 17, wherein the nucleic acid composite material is deposited onto the carrier or molded or injected at a temperature ranging from -230°C to 400°C.

31. **(New)** The nucleic acid composite material sensor according to Claim 30, wherein the printed or molded or injected nucleic acid composite material is heat-treated at a temperature ranging from -230°C to 400°C.

32. **(New)** The method according to Claim 3, wherein said DNA is bulk DNA, a synthetic nucleic acid and/or the mixture of the above.

33. **(New)** The method according to Claim 32, wherein said bulk DNA is salmon sperm DNA or calf Thymus DNA, and said synthetic nucleic acid comprises poly (G), poly (A), poly (T), poly (U) or poly (C) sequences.

34. **(New)** The method according to Claim 4, wherein said bonding agent is ferrocene carboxylic acid.

35. **(New)** The method according to Claim 5, wherein said intercalants are metal complexes comprising Ruthenium, ferro- and cobalt ions.